REMARKS

The application has been reviewed in light of the Office Action mailed August 10, 2005. The specification and claims 12-17 have been amended without adding new matter. Applicants reserve the right to pursue the pre-amended claims, and other claims, in this and other applications. Reconsideration of the application is respectfully requested in light of the following.

The Abstract and the specification are objected to due to several informalities, as discussed in paragraphs 2 – 4 of the Office Action. Applicants thank the Examiner for the careful reading of the application. The specification has been amended and the Abstract has been replaced to address the issues raised in the Office Action.

Claims 12-17 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for several reasons, as outlined in paragraph 9 of the Office Action. Claims 12-17 have been amended to address all of the rejections. Please note also that claim 16 further limits claim 12 by the limitation "the metal surfaces ... comprise a material which enables penetration of the wireless communication waves."

Claims 12, 13 and 16 stand rejected under 35 U.S.C. § 103 as being unpatentable over Bilas et al., U.S. Patent No. 5,231,565 (hereinafter "Bilas") in view of Azzaro et al., U.S. Patent No. 6,487,478 (hereinafter "Azzaro"). Reconsideration is respectfully requested in light of the foregoing amendments and the following remarks.

The present invention provides an equipment diagnostic system that is uncomplicated, light weight and low in production costs. In the present invention, as shown in Figure 9, for example, an in-panel communication module 44 is provided in a power distribution panel switch gear 34, which is arranged in the field. The communication module 44 receives and trasmits monitoring and control signals to a power circuit 46 by the wireless communications 32. The wireless communcations

apply an evanescent mode, which is discussed, for example, beginning on page 12, line 12 of the specification.

The power circuit 46 is connected to and controls a plurality of devices 58-62. Further, the switch gear 34 comprises a metal and non-metal enclosed panel, and so a portion of the wireless communication waves, in evanescent mode, emanate out of the panel. A diagnostic wave receiver (see, for example, element 100 in Figure 9) receives the wireless communication waves and a diagnostic judgment device (see, for example, elements 101, 102 in Figure 9) diagnoses whether the condition of the control and monitoring signals of the wireless communication waves are within a normal operating range. The claims are not limited to the disclosed embodiments.

Thus, it is not necessary to add wireless transmitting equipment exclusively for monitoring in the switch gear 34. Also, there is no need to connect cables between the controller and each switch gear. Therefore, the equipment diagnostic system of the present invention is uncomplicated, light weight and low in production costs.

As defined in amended claim 12, the system comprises "a power distribution panel switch gear arranged near a plurality of devices to be operated, said power distribution panel switch gear comprising a panel having metal and non-metal surfaces." The system of claim 12 further comprises a "communication module, arranged in the power distribution panel switch gear, for receiving and transmitting instructions to said plurality of devices using wireless communication in an evanescent mode; [and] a controller, arranged in a central control room, for transmitting instructions to said power distribution panel switch gear through wireless communication." And, claim 12 recites a "receiver for receiving wireless communication waves, in an evanescent mode, emanating from said power distribution panel switch gear, and a diagnostic judgment device for diagnosing whether information content of the wireless communication waves received by said receiver is within an operating range acknowledged to be a normal operating range."

The cited references, taken alone or in combination, fail to teach or suggest the limitations of claim 12. Bilas discloses a distribution system that controls circuit breakers 20 with controller 32 via bus boards 16 and 18. See Figures 1a and 1b. The controller 32 and the circuit breakers 20 are located in an enclosure 10, and are connected to each other by the bus boards 16 and 18. An interface driver board 34 is coupled to the bus boards 16 and 18 via a pair of ribbon cables 30.

As pointed out by the Office Action, Bilas provides examples for transmitting control and monitoring signals between the interface driver board 34 and the control/monitoring device. Bilas discloses an expander panel 130 that may include option cards 144 for providing customized functions, and one of such option cards is a wireless (FM) communication card. Column 15, lines 18-34.

However, Bilas does not teach or suggest how such wireless (FM) communication links are arranged, what portions of the system are connected, or what kind of wireless communication the links comprise. Thus, Bilas fails to teach of suggest, for example, a "communication module, arranged in the power distribution panel switch gear, for receiving and transmitting instructions to said plurality of devices using wireless communication in an evanescent mode; [and] a controller, arranged in a central control room, for transmitting instructions to said power distribution panel switch gear through wireless communication," as recited in amended claim 12.

Azzaro, which relates to the railroad locomotive industry, discloses an on-board monitor 10 which transmits performance data to a monitoring and diagnostic service center 42 through a wireless communication device 40. Azzaro provides the on-board monitor 10 and the wireless communication device 40 for the exclusive use of transmitting wireless communication.

Azzaro is relied upon by the Office Action to teach a "diagnostic judgment device for monitoring a signal operating range." Office Action, page 7. Azzaro fails to teach or suggest the above-quoted limitations of claim 12, and the Office Action does

not rely on Azzaro for teaching such limitations. Thus, taken alone or in combination, Bilas and Azzaro fail to teach or suggest all of the limitations of amended claim 12, and claim 12 is allowable for at least these reasons. Claims 13 and 16, which depend from claim 12, should be allowed for the same reasons as for allowance of claim 12, and also because the additional limitations recited therein render the claims allowable.

Claims 14 and 15 stand rejected under 35 U.S.C. § 103 as being unpatentable over Bilas in view of Azzaro as applied to claim 12 above, and further in view of Stevens et al., U.S. Patent No. 5,612,960 (hereinafter "Stevens"). Also, claim 17 stands rejected under Bilas in view of Azzaro as applied to claim 12, and further in view of Takechi, U.S. Pub. No. 2002/0004758 (hereinafter "Takechi"). Reconsideration is respectfully requested.

The rejections of claim 14, 15 and 17 are based upon the rejection of claim 12 over Bilas in view of Azzaro. As discussed above, amended claim 12 is allowable over the proposed combination of Bilas and Azzaro, and Stevens and Takechi add nothing to remedy the deficiencies of Bilas and Azzaro with respect to claim 12. Claims 14, 15 and 17 depend from claim 12, and should be allowed for at least the same reasons as for allowance of claim 12, and for other reasons.

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to pass this application to issue.

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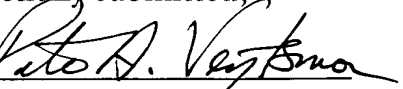
Respectfully submitted,

By 

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